REMARKS

Claims 1-27 are now pending in this RCE application. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

New Amendments and Arguments

At the outset, it appears that the Examiner is using a hindsight approach for examining this application. The previous rejections do not make a *prima facie* case of obviousness, which is the burden placed on the Examiner. For example, there is no motivation in the previously applied Swirbel or Smith references to combine their respective disclosures. Even if such a combination was proper, that combination would still not read on Applicants' claims. There is clearly no disclosure in the prior art of the combination of elements and steps recited in Applicants' claims. Taking claim 1 for example, none of the art appears to disclose a substrate with "microstructures made with *drive circuits* for said organic EL element". The switches 27 of Swirbel are not equivalent structures and, in any event, the switches face in the wrong direction. Claim 1 recites that the circuit substrate and the transparent substrate are connected together so that all of the active components *mutually face* each other, i.e., are "facing towards the inside". Claim 1 also calls for protective film that covers the microstructures in which the film has holes through which the wiring passes to connect the microstructures to the organic EL elements. In the Examiner's Advisory Action mailed July 28, 2004, the Examiner seems to suggest that the entire claimed method is obvious because the general concept of a protective film may be old. While the general concept of a

protective film may be old, the combination of steps and structure of these claims are not rendered obvious by such fact.

The independent claims have also been amended to recite that the active EL/electro-optic areas are separated by insulating material and/or are formed in openings in an insulating layer on the transparent electrode layer as shown, for example, in Figure 2 of Applicants' specification. In such manner, the active areas or pixel areas 25 are isolated from each other by banks of insulating material 22. No such claimed subject matter is found in any of the cited references.

Finally, the Examiner also appears to be ignoring the limitations found in the dependent claims. For example, the Examiner had to use four different references to base his rejection of claims 3-4 and 15-16 in his previous rejections. The Examiner further admits that three of the references do not specifically teach the method of preparing "a roll of the substrates and unrolling them while pressing with a pressing roller from front and rear surfaces to connect the two substrates". Applicants submit that it is only with a prohibitive hindsight approach that the Examiner would find the motivation to combine these references. This is especially true when the Examiner admits that three of the four references either are silent on the use of this rolling technique or such a rolling technique could not be used to make them.

ARGUMENTS PREVIOUSLY PRESENTED

For sake of completeness, Applicant also reiterates its arguments presented earlier traversing the Examiner's previous rejections.

Referring to Claims 1, 5, 6, 8 and 9, Swirbel et al. do not show, teach, or suggest a circuit substrate or a method for preparing a circuit substrate with microstructures made with drive circuits for an organic EL element or another electro-optic device set at positions corresponding to pixels, a protective film made of an insulating material covering the microstructures, the protective film having though holes, and with wiring formed on the surface connecting to the microstructures through the through holes.

Swirbel et al. teach a flat panel display 10 that uses active matrix addressing. The flat panel display 10 includes an organic EL medium 40 that is sandwiched between a top substrate 30 and a bottom substrate 20 (col. 2, line 41 and See FIG. 2). Switching means 24 that may include transistors or transistor arrays are located on a bottom side of the bottom substrate 20. The switching means 24 connect to respective electrodes 22 on a top side of the bottom substrate 20 through electrically conductive vias 28 (col. 2, line 56). Conductor paths 27 that are formed on the bottom side of the bottom substrate 20 provide a signal link between the switching means 24 and a display driver.

The conductor paths 27 and the switching means 24 are not separated by a protective film made of an insulating material, as recited in the claims. The switching means 24 and the conductor paths 27 are both located on the bottom side of the bottom substrate 20. Furthermore, the switching means 24 and the conductor paths 27 do not communicate via through holes in a protective film. The switching means 24 and the conductor paths 27 communicate directly on the bottom side of the bottom substrate 20.

Applicants claim a circuit substrate on which a plurality of concavities is formed. Microstructures that include drive circuits for pixels are located in the concavities. The

surface of the circuit substrate including the microstructures is covered by a protective film made of an insulating material. Through holes are formed in the protective film and wiring is formed to conduct with the microstructures through the through holes.

This is different from mounting the microstructures and the wiring below the circuit substrate as taught by Swirbel et al. Applicants claim that a cathode layer is laminated on an outer surface of a transparent electrode layer. If the microstructures and the wiring were situated according to Swirbel et al, the cathode layer could not contact the wiring during a roller pressing process. Therefore, the structure taught by Swirbel et al. is functionally incompatible with the structure and method of the claimed invention.

Smith does not remedy the shortcomings of Swirbel et al. Smith teaches a functionally symmetric integrated circuit die. A substrate 101 includes a plurality of receptor sites (for example 115) (col. 4, line 55 and See FIG. 1). Individual integrated circuit dice (for example 133) are mounted into corresponding receptor sites 115. The integrated circuit dice 133 are functionally interchangeable. The receptor sites (for example 511 in FIG. 5) include interface pads (for example 519) that communicate with pixels (for example 503) and other receptor sites 511 via pre-existing signal lines (for example 557). The integrated circuit dice 133 are then mounted in the receptor sites 511 to communicate with the interface pads 519.

A protective film made of an insulating material does not cover the integrated circuit dice, as recited in the claims. The integrated circuit dice 133 are mounted in the receptor sites 511, which include pre-exiting wiring to the pixels 503 and other receptor sites 511. Additionally, wiring is not formed on the surface of a protective film and does

not communicate with the integrated circuit dice via through holes. The integrated circuit dice 133 are mounted directly in the receptor sites 511 so that they may be removed and/or replaced with other functionally interchangeable integrated circuit dice 133.

Additionally, the protective film made of an insulating material in Applicant's invention servers to prevent the microstructures from separating from the circuit substrate when the circuit substrate and the transparent substrate are joined. Therefore, one skilled in the art would not have been motivated by the teachings of Smith and/or Swirbel et al. to provide a protective film that covers microstructures that are mounted in a circuit substrate.

Claims 2-4, 7, and 10 depend directly or indirectly from Claims 1, 6, and 9, respectively, and should be allowable over Swirbel et al. and Smith for the same reasons.

Referring to Claims 11, 17, 19, 23, and 25, Swirbel et al. do not show, teach, or suggest covering drive circuits for an organic EL element or another electro-optic device with a protective film made of an insulating material, the protective film having a plurality of through holes. Swirbel et al. also does not show, teach, or suggest connecting a plurality of wires to the drive circuits by passing the plurality of wires through the plurality of through holes.

As discussed above, Swirbel et al. teach a flat panel display with an organic EL medium that is sandwiched between a top substrate and a bottom substrate. Switching means that may include transistors or transistor arrays are located on a bottom side of the bottom substrate. The switching means connect to respective electrodes on a top

side of the bottom substrate through electrically conductive vias. Conductor paths that are formed on the bottom side of the bottom substrate provide a signal link between the switching means and a display driver. The conductor paths and the switching means are not separated by a protective film made of an insulating material, as recited in the claims. Furthermore, the switching means and the conductor paths do not communicate via through holes in a protective film. The structure taught by Swirbel et al. is functionally incompatible with the structure and method of the claimed invention.

Smith does not remedy the shortcomings of Swirbel et al. Smith teaches a functionally symmetric integrated circuit die. A substrate includes a plurality of receptor sites. Individual integrated circuit dice are mounted into corresponding receptor sites. The integrated circuit dice are functionally interchangeable. The receptor sites include interface pads that communicate with pixels and other receptor sites via pre-existing signal lines. The integrated circuit dice are then mounted in the receptor sites to communicate with the interface pads.

A protective film made of an insulating material does not cover the integrated circuit dice, as recited in the claims. Wiring is not formed on the surface of a protective film and does not communicate with the integrated circuit dice via through holes. Additionally, the protective film made of an insulating material in Applicant's invention servers to prevent the drive circuits from separating from the circuit substrate when the circuit substrate and the transparent substrate are joined. Therefore, one skilled in the art would not have been motivated by the teachings of Smith and/or Swirbel et al. to provide a protective film that covers drive circuits that are mounted in a circuit substrate.

Claims 12-16, 18, 20-22, 24, and 26 and 27 depend directly or indirectly from Claims 11, 17, 19, 23, and 25, respectively, and are allowable over Swirbel et al. and Smith for the same reasons.

CONCLUSION

It is believed that the present application is in condition for allowance. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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By: _____
G. Gregory Schivley
Reg. No. 27,382
Bryant E. Wade
Reg. No. 40,344
Attorneys for Applicants

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600

BEW/wmt